

ABSTRACT OF THE DISCLOSURE

The invention uses the ability of a switching fabric to set a congestion indicator bit (EFCI bit) in an ATM cell if any queue through which the ATM cell passes is filled above a lower threshold. A Traffic Manager monitors the field of the EFCI bit as cells
5 arrive at an output port of the switching fabric. The traffic manager periodically calculates the ratio of ATM cells having the EFCI congestion bit set to all ATM cells routed to a particular output port. The periodically calculated ratio is used as an input parameter to a Random Early Detection (RED) algorithm. The RED algorithm selects a cell for the switch fabric to drop, by use of a random selection method. The destination computer
10 then does not receive the packet since cells forming part of the packet have been discarded. In an adaptable protocol such as TCP/IP, the source station resends the packet in response to its timer timing out as it waits for an ACK message, and also the source computer reduces the rate at which it transmits packets into the network. The random selection of ATM cells belonging to an IP packet to drop has the effect of helping to prevent
15 undesirable network synchronization of transmission of replacement packets. With adaptive source computers, the network device then does not reach a congested state, thereby maintaining optimum throughput for the computer network.